

CLAIMS

- [001] A reversing linear drive comprising at least one field coil which is to be acted upon by a variable current, comprising a magnetic armature which is to be set in linear oscillating motion in an axial direction with an armature stroke by the magnetic field of the field coil and comprising means for detecting the armature position, characterised in that the means provided at least to detect the armature position comprise a stripe pattern element (10, 20) extending at least over the entire axial armature stroke (H) comprising an alternating arrangement of transparent and opaque stripes (12i) or light-reflecting and non-light-reflecting stripes (11i) and at least one light barrier (14) comprising light-emitting and light-receiving parts whose light beams are aligned at least approximately perpendicularly relative to the axial direction of the stripe pattern element (10, 20).
- [002] The drive according to claim 1, characterised in that the stripe pattern element (10, 20) is rigidly connected to the armature (8).
- [003] The drive according to claim 1 or claim 2, characterised in that the light barrier (14) is embodied as a double light barrier.
- [004] The drive according to any one of the preceding claims, characterised in that the transparent and opaque stripes (12i, 11i) or the light-reflecting and non-light-reflecting stripes each have the same axial extension.
- [005] The drive according to any one of claims 1 to 3, characterised in that at least some of the transparent stripes (12i) and/or the opaque stripes (11i) or the light-reflecting and non-light-reflecting stripes have non-uniform axial extensions.
- [006] The drive according to any one of the preceding claims, characterised in that the axial extension of the transparent and opaque stripes (12i or 11i) or the light-reflecting and non-light-reflecting stripes is less than 0.25 mm in each case.

- [007] The drive according to any one of the preceding claims, characterised by a comb-like formation of the stripe pattern element (10).
- [008] The drive according to any one of the preceding claims, characterised in that the stripe pattern element (10) additionally has at least one trigger stripe (17, 21).
- [009] The drive according to claim 8, characterised in that the trigger stripe (17, 21) is arranged in the area near the maximum speed of the oscillating armature part (8).
- [010] The drive according to claim 8 or 9, characterised in that the trigger stripe (17) is also to be detected by the light barrier (14).
- [011] The drive according to claim 8 or 9, characterised in that a separate light barrier (22) is associated with the trigger stripe (21).
- [012] The drive according to any one of the preceding claims, characterised in that means for detecting the speed of the armature (8) and/or its direction of motion are additionally provided.
- [013] The drive according to any one of the preceding claims, characterised in that the armature (8) is rigidly connected to a pump plunger of a compressor (V).